



# ***Global Combat Support System - Air Force Technical Overview***

***January 2004***

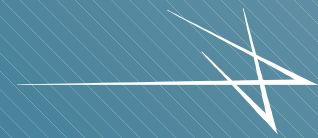
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GCSS-AF O&S Chief Engineer  
Lockheed Martin Mission Systems

# Agenda



- GCSS-AF Overview
  - Program Objectives
  - Reference Architecture
  - Levels of Integration
  - Reduced Sign-on
- Getting on the Roadmap
  - Outreach
  - Planning for Product Upgrades
- Discussion

# Why GCSS-AF?



## ■ Real Mission Lessons Learned

- Legacy systems were not designed for Expeditionary Operations



Couldn't accurately match munitions to mission requirements



Couldn't match trained personnel to mission needs



Couldn't deploy legacy maintenance system - safety of flight maintenance (TCTO) status is unknown

**No single application has all the required information - We must have the capability to pull cross-functional information**

# *Architecture and Integration Strategy*

## **Strategy:**

**Provide integrated agile capability** to the customer through incremental delivery of the combat support information systems and business components, driven by an evolutionary tactical and strategic roadmap and a **standards based component architecture.**

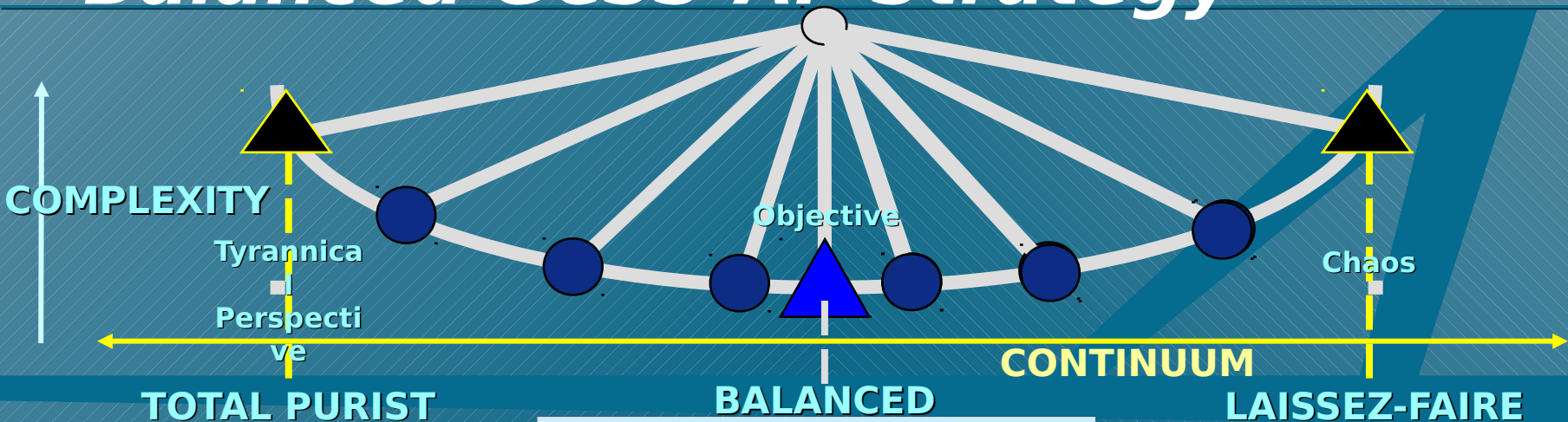
**A Common consistent architecture and the ease of the integration within that architecture are key to achieving Agile Combat Support and the principle objectives of the GCSS-AF program**

# GCSS-AF Architecture

## Concepts

- GCSS-AF: *System of Mission Applications (Business Capabilities)*
  - Build From Business Components, Leveraging Best-of-Breed Commercial Technology and Processes
  - Uniform, Consistent, Documented Infrastructure to Support
  - Not Stove Pipes, but *Seamlessly Integrated* to Provide Accurate, Timely, and Trusted Information to the Warfighter
  - Component-based Architecture, *Not Data Centric*
  - Capabilities Created From Integrating Components
  - Components Interact Through Their Contractual APIs
    - Not Shared Data in a Database
    - Homogenous Means of Defining, Implementing, and Documenting Interfaces
  - Apply industry lessons learned...find out what they're doing well and do it!
- Two Major Frameworks
  - Application Framework
    - Business Components (e.g. Requisitioning, Inventory Control, General Ledger)
    - Technical Components Which Provide Inter-Business Component Communication APIs
  - Integration Framework
    - Those Component Services and Facilities Upon Which Business Components and Communication APIs Are Built

# Balanced GCSS-AF Strategy



## CHARACTERIZED BY

- 1 Monolithic system
- Strict open standards (J2EE only)
- Mandatory / limited product suite
- Total compliance

## PROs

- Improves AEF support
- Enterprise configuration control
- 'One' server
- Enterprise licensing
- Easy bridge to GCCS

## CONs

- Expensive for customers to convert
- Tyranny. No waivers. No mercy

## CHARACTERIZED BY

- Best value tailored services
- Centralized services, help desk
- Continuous attention to major market changes in standards
- Interoperability vs compliance

## PROs

- Improves AEF support
- Flexibility
- Best return on investment
- Centralized purchase of licenses
- Best sustainment posture
- Bridges to GCCS

## CONs

- Could incur sustainment of legacy code
- CM. Multiple systems / licenses

## CHARACTERIZED BY

- All systems 'do their own thing'
- 'Any system is in'
- All product suites represented
- Zero compliance

## PROs

- Each system controls their own destiny
- Customer doesn't pay any integration bills

## CONs

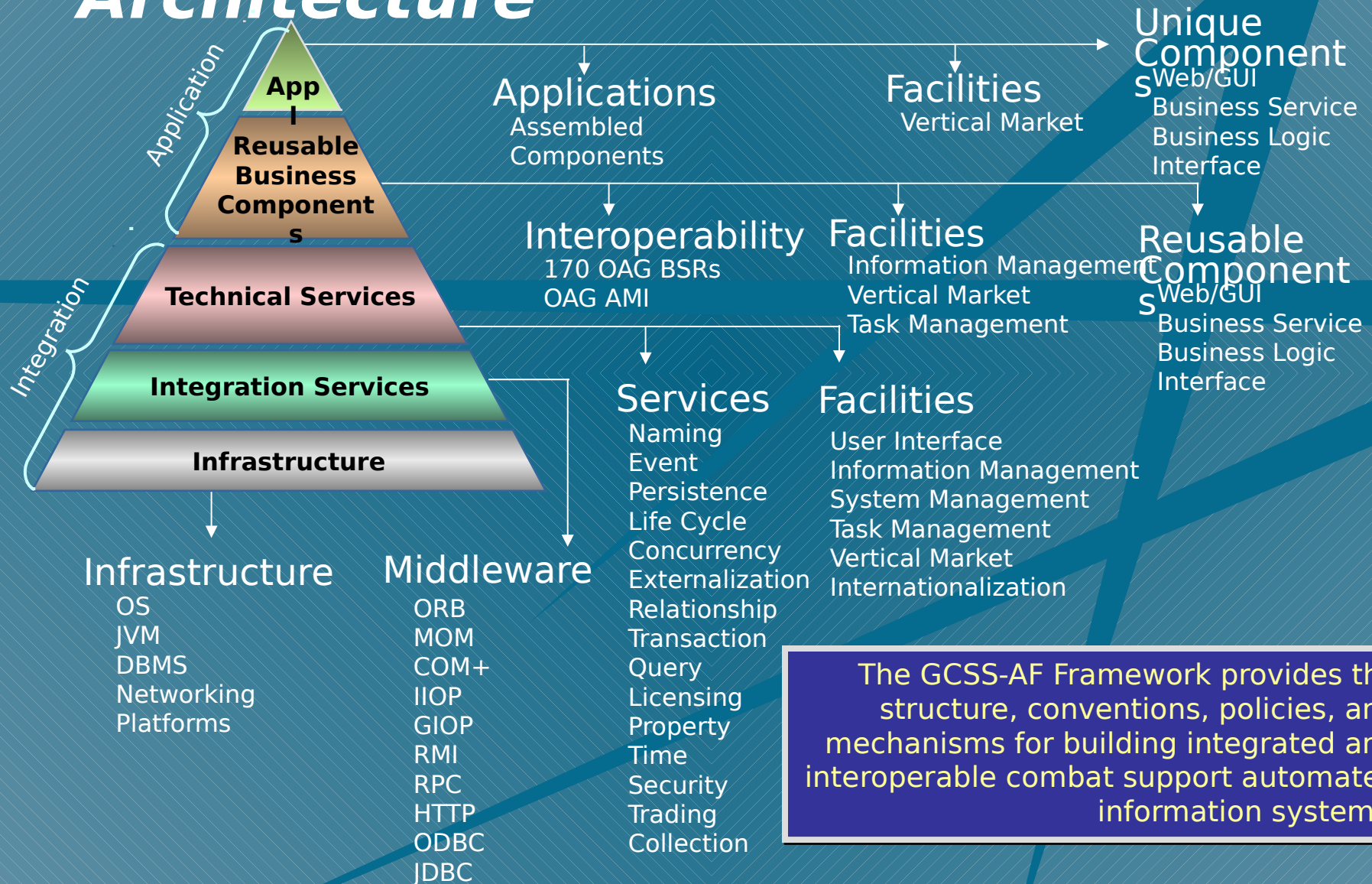
- Slow response to AEF support
- Can't leverage buying power
- Expensive configuration management
- Expensive sustainment
- Point to point bridge to GCCS



# Reference Architecture

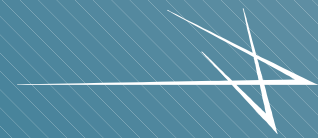


# GCSS-AF Reference Architecture





# Open Standards Support



## Data Standards

- ANSI SQL
- JDBC
- OMG Persistent State Service (PSS)
- OMG Persistent Object Service (POS)
- OAG OAGIS
- EJB Entity Beans (CMP)

## Messaging Standards

- OAG OAGIS (BSR/BOD)
- OAG OAMAS (AMI)
- JMS
- XML (formatting)

## Design Patterns

- Model-View-Controller

## Componentization Standards

- J2EE**
- EJB

## Presentation Standards

- Java Servlets
- Java Server Pages (JSP)
- HTML/DHTML/HTTP

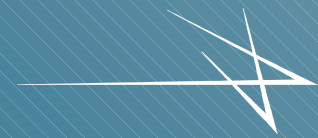
## Development Processes

- Rational Unified Process using UML

## Security

- JAAS
- PKI (certificates for authentication)
- HTTPS/SSL (data encryption)
- LDAP

# Supported Services - Infrastructure



Supported Service/Capability	Provided by	Supporting Product(s) and Notes
Hardware	Sun	Other Platforms and Operating Systems have not been validated
Operating System	Solaris 8 on Sun	
Database Engine	Oracle 9i	
Middleware/Protocols	HTTP/HTTPS TCP/IP RMI-IIOP ODBC JDBC	
Network Devices	Cisco Local Director	
	Cisco Content Sensitive Switch	
	Packeteer AppCelera	
	Others as provided by DISA	
Java Virtual Machine	IBM (as provided by WebSphere)	
	SUN (as provided by Oracle 9i Application Server)	
Network Services	DISA Provided	

Applications

Cross-Business Interoperability

Technical Services

Integration Services

Infrastructure

# Supported Services – Integration Services



Supported Service/Capability	Provided by	Supporting Product(s) and Notes
Enterprise Java Platform	J 2EE	IBM WebSphere
		Oracle 9i AS
Application Server	Application Server	IBM WebSphere AE
		Oracle 9i AS
Message Oriented Middleware	Open Application Middleware API Specification (AMI), Java Messaging Service (JMS)	IBM WebSphere
	Advanced Queuing	Oracle 9i AS
	Java Messaging Service (JMS)	
Distributed Data Access	Open Database Connectivity (ODBC)	Oracle 9i AS
		IBM WebSphere MQSeries
	Java Database Connectivity (JDBC)	Oracle 9iAS
		IBM WebSphere MQSeries
	Net8/SQLNet	Oracle 9i Database
Network Time Protocol		As provided by DISA

Applications

Cross-Business Interoperability

Technical Services

Integration Services

Infrastructure

# Supported Services - Technical Services

Supported Service/Capability	Provided by	Supporting Product(s) and Notes
Naming Service	J NDI	IBM WebSphere Oracle 9i AS
Time Service	Operating Systems	SUN Solaris
Persistence Service	J 2EE - CMP, BMP	IBM WebSphere
Transaction Service	J 2EE - J TS, CMP, BMP	Oracle 9i AS
Query Service	SQL, SQL-J, EJ B-QL	IBM WebSphere Oracle 9i AS
Relationship Service	CMR	IBM WebSphere
Concurrency Service	J 2EE (Access to shared resources from multiple Tx or threads)	IBM WebSphere
Externalization	Serialization	IBM WebSphere
Security Services	CMS	IBM WebSphere
	Access Authentication Non-Repudiation Confidentiality Audit and Alarm PKI & Key Management	Tivoli Policy Director IF Logging Service
	Integrity	DISA STIGs

Applications

Cross-Business  
Interoperability

Technical Services

Integration Services

Infrastructure

# Supported Services – Technical Services – Facilities



Supported Service/Capability	Provided by	Supporting Product(s) and Notes
User Interface Common Facilities	USAF Portal	BroadVision
Web Services: Web Browsers		Netscape Communicator Microsoft Internet Explorer
Web Services: Web Servers		Apache Web Server Microsoft IIS
Web Services: Servlet Engine		IBM WebSphere Oracle 9i AS
Configuration Management		
Fault Management		
Event Management		Tivoli as supplied by DISA
Backup-Recovery		Sun Solaris As provided by DISA
Log Facilities	Logging Service	Log4j
Integration Framework Management		
Web Management		IBM WebSphere
Enterprise Data Management		Oracle DBMS
Performance Management		Future Capability
Middleware Management		IBM WebSphere IBM WebSphere MQ utilities

Applications

Cross-Business Interoperability

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Infrastructure

# Supported Services – Technical Services – Facilities

Supported Service/Capability	Provided by	Supporting Product(s) and Notes
Security Management	Management Console	Tivoli Policy Director
Data Access Services	Database Services	Oracle DBMS
Time Operations		Future Capability
Information Interchange: BOD Support	BOD Class	IF
Information Interchange: XML Services	XML Parser	XML4J Parser
	XML Parser	Xerces Parser
	DTD Repository	IF
Internationalization	JDK	JDK 1.3

Applications

Cross-Business  
Interoperability

Technical Services

Integration Services

Infrastructure

# Integration Framework Status - 8/03

Vendor/COTS Product	COTS Versions	COTS Availability	COTS Support Ends	GCSS-AF Scheduled Release Date	GCSS-AF Production Availability	GCSS-AF Deprecation Date	GCSS-AF Removal Date	Funded	Removal Notice	Notes:
<b>COMMON SERVICES - 1 Product Version Supported</b>										
<b>Tivoli</b>										
Policy Director	3.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a		Removed From Service
	3.8	Now	Oct-03	Complete	In-place	Aug-03	Sep-03	n/a		To be removed from service when TAM 4.1 is fielded.
Access Manager (TAM)	4.1	Now	Not Announced	Aug-03	Sep-03	Not Announced	TBD	No		
<b>Broad Vision</b>										
Broadvision	6.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a		Removed from Service
	6.5	Now	Jun-03	Complete	In-place	Jul-03	Sep-03	n/a		To be removed from service when BV 7.0 fielded.
	7.0	Now	TBD	Jun-03	Jul-03	Not Announced	TBD	Y		
	7.1	Apr-03	Not Announced	No plan to release	n/a	n/a	n/a	No		CR will be required to support this upgrade
<b>Bantu</b>										
Instant Messenger	2.0	Now	Feb-04	n/a	In-place	Feb-04	TBD	n/a		To be removed from service when Bantu IM v TBD is fielded.
	2.1	Aug-03	TBD	No plan to release	n/a	n/a	n/a	No		Impact to be assessed
	2.2	Est Sep-03	TBD	No plan to release	n/a	n/a	n/a	No		Impact to be assessed
	2.3	Est Maar-04	TBD	No plan to release	n/a	n/a	n/a	No		Impact to be assessed
	Interdomain Messaging	Jul-03	TBD	CR Required	n/a	n/a	n/a	No		CR Required to support this effort
	Collaboration Center / Presence / AutoLaunch	Now	TBD	No plan to release	n/a	n/a	n/a	No		CR in process to support this activity



# Integration Framework Status - 8/03

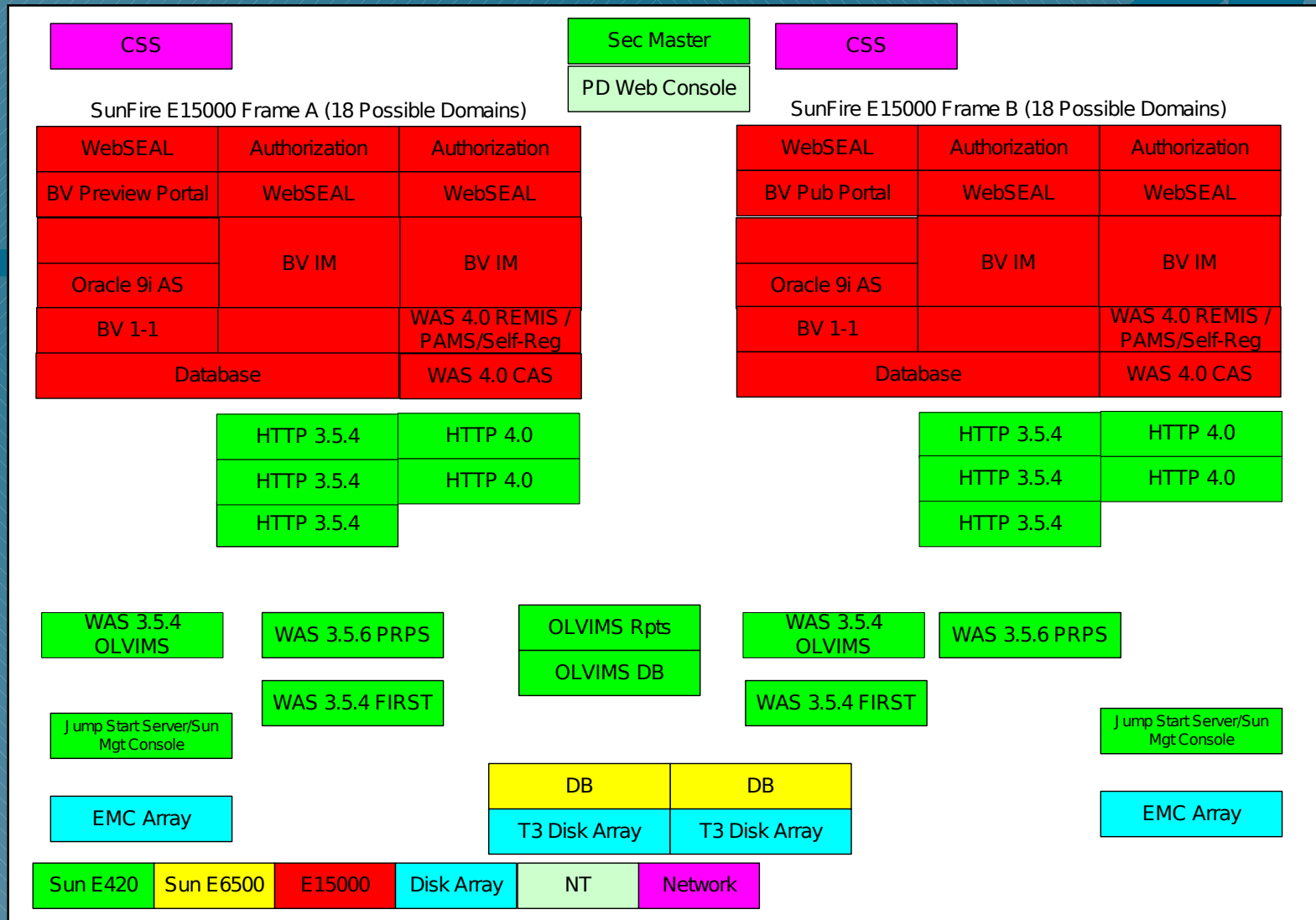
Vendor/COTS Product	COTS Versions	COTS Availability	COTS Support Ends	GCSS-AF Scheduled Release Date	GCSS-AF Production Availability	GCSS-AF Deprecation Date	GCSS-AF Removal Date	Funded	Removal Notice	Notes:
<b>COMMON SERVICES - 2 Product Version Supported</b>										
<b>Sun</b>										
Solaris OS	7.0	Now	Not Announced	n/a	In-place	TBD	TBD	n/a		Operating systems and rev levels are selected to provide compatibility with loaded applications.
	8.0	Now	Not Announced	n/a	In-place	TBD	TBD	n/a		
<b>Oracle</b>										
Oracle RDBMS	8.1.7	Now	Dec-03	n/a	In-place	Dec-03	Jan-04	n/a		Not to be used for new design
	9.0.1.0	Now	Dec-03	n/a	In-place	Dec-03	TBD	n/a		Not to be used for new design
	9.2.0.2	Now	TBD	n/a	In-place	Jul-03	Jul-03	Y		Recommended for new design
	9.2.0.3	Now	TBD	No plan to release	n/a	n/a	n/a	No		<b>CR required to support this effort</b>
<b>IBM</b>										
WebSphere MQSeries	5.1	Now	Sep-02	n/a	In-place	Sep-02	TBD	n/a		Not to be used for new design
	5.2	n/a	Dec-03	n/a	In-place	Dec-03	TBD	n/a		Not to be used for new design
	5.3	Dec-02	Not Announced	Sep-03	Oct-03	TBD	TBD	Y		Recommended for new design
<b>Microsoft</b>										
BizTalk Server	2002	n/a	Not Announced	3QCY03	3QCY03	TBD	TBD	No		Pilots to be released to the IF
Web Services	TBD	Now	Not Announced	No plan to release	n/a	n/a	n/a	No		UnFunded

# Integration Framework Status - 8/03

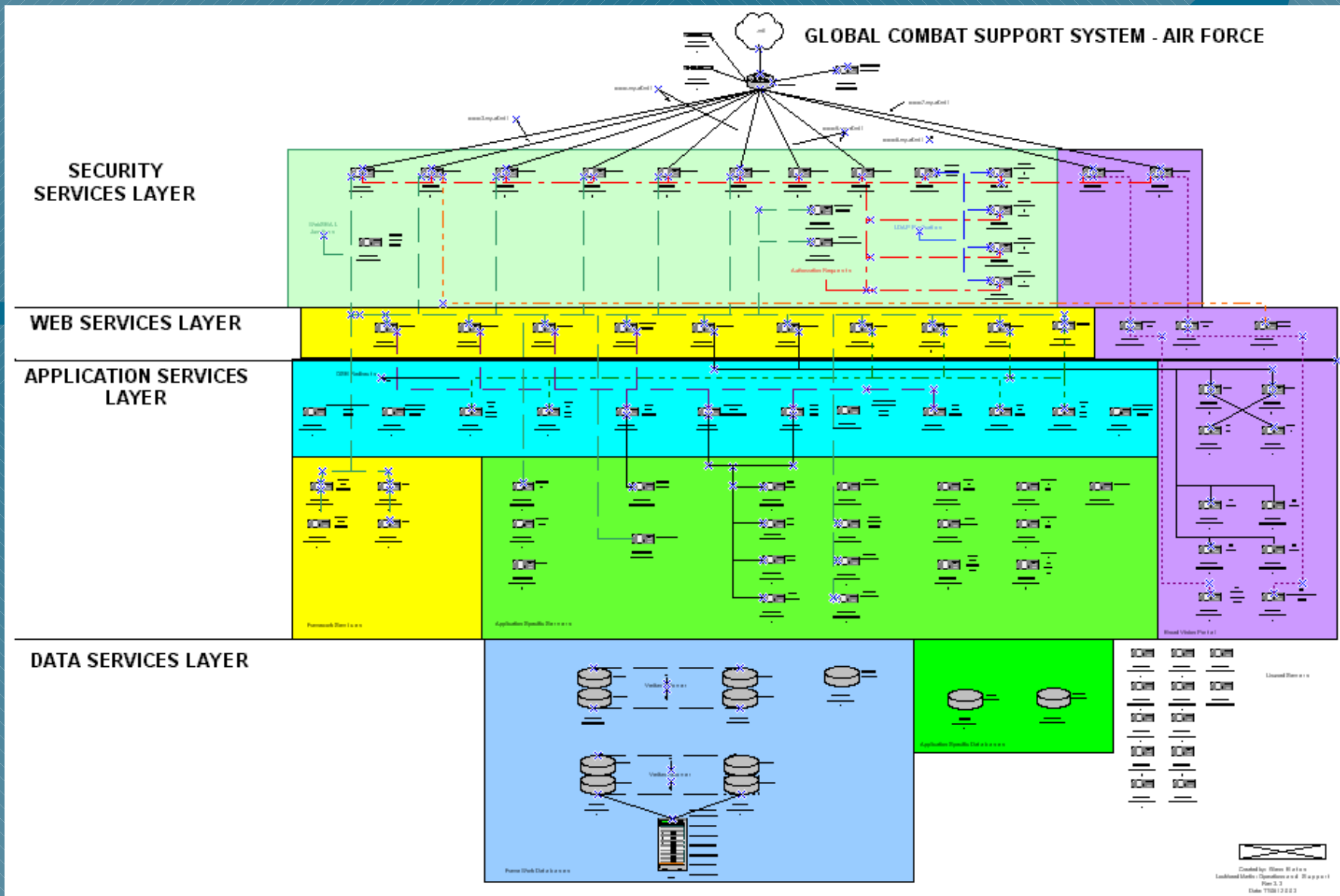


Vendor/COTS Product	COTS Versions	COTS Availability	COTS Support Ends	GCSS-AF Scheduled Release Date	GCSS-AF Production Availability	GCSS-AF Deprecation Date	GCSS-AF Removal Date	Funded	Removal Notice	Notes:
<b>APPLICATION SERVICES - 2 Product Version Supported</b>										
<b>IBM</b>										
WebSphere	3.5.4	n/a	Dec-02	n/a	In-place	Dec-02	Jan-04	n/a		Not for new Design
	3.5.6	n/a	Nov-03	n/a	In-place	Nov-02	Jan-04	n/a		Not for new Design
	4.0.2	Now	Sep-03	n/a	In-place	Sep-03	TBD	n/a		Not Recommended for new Design
	5.0	Dec-02	Not Announced	Sep-03	Oct-03	TBD	TBD	Y		This product recommended for new design
	6.0	Not Announced	n/a	No plan to release	n/a	n/a	n/a	No		This product has not been announced by IBM.
<b>Oracle</b>										
Application Server	9i Release 1	n/a	Jun-03	n/a	In-place	Jun-03	TBD	n/a		Not Recommended for new Design
	9i 9.0.2	Now	Not Announced	Sep-03	Sep-03	TBD	TBD	Y		Recommended for new design fielding in CY03 Early "Test Release" to be made to SWT in June 2003 to support PAMS
	9i 9.0.3	Now	Not Announced	Sep-03	Sep-03	TBD	TBD	Y		Not Recommended for new Design
	9i 9.0.4	3QCY03	Not Announced	No plan to release	n/a	n/a	n/a	No		Recommended for new design fielding 2QCY04; Verify funding with GCSS-AFSP0 prior to design
	Oracle Next Gen AS	Est. 4QCY04	n/a	No plan to release	n/a	n/a	n/a	No		This product has not been announced by Oracle
<b>Microsoft</b>										
Windows 2000 IIS Server	v 5.0	Now	Not Announced	n/a	In-place	TBD	TBD	n/a		

# GCSS-AF IF Physical View

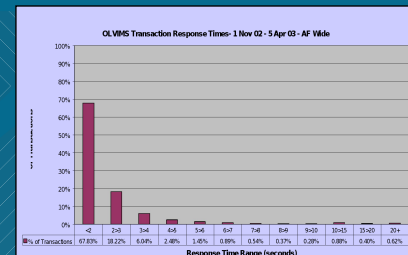


# GCSS-AF IF Physical View



# GCSS-AF Accomplishments

- **Highly Skilled and Responsive IT Engineering Team Established**
  - 26 Companies Involved (Lockheed Martin, SUN, IBM, Oracle, Microsoft, etc.)
- **Robust Operational Enterprise Capability in Use Today**
  - 99%+ Availability
- **Management Systems in Place to Deploy New Enterprise Services Quickly**



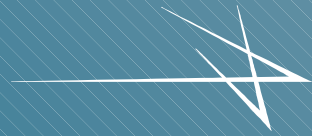
	April 2002	April 2003
User Accounts	1,250	92,458
Capacity Analysis	20,000	300,000
IF/AFP Releases	7	72
Application Releases	2	22
RSO Releases	0	12
OLVIMS Performance	> 8 Sec	< 2 Sec
CM Items	4	94

**Weekly Deliveries of Capability, While Maintaining System Integrity**



# **Levels of Integration (LOI)**

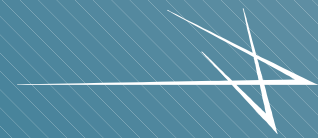
# ***Lol Takeaways***



- Four levels
  - Defined and assessed by the enterprise
- Increasing use of enterprise services
- Incremental migration path
- Achieving Level 4 tied to savings on security process



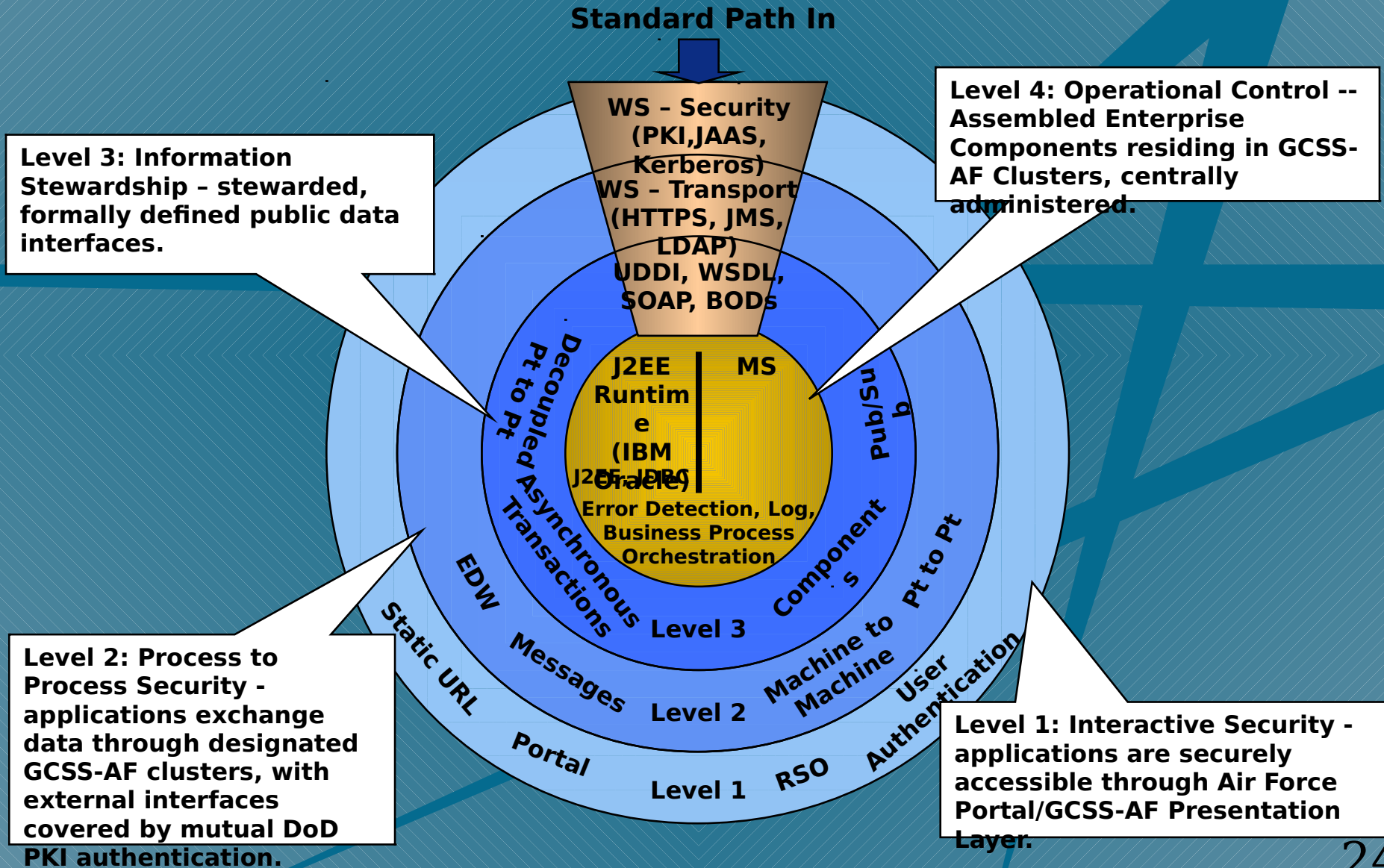
# Definition Update



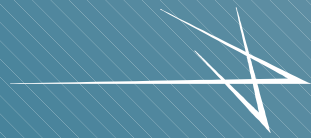
- Gen. Croom letter concerning Certificate of Networthiness (CoN) and GCSS-AF “compliance”
- Big benefit to becoming GCSS-AF Level 4 (save time and money)
- Refocuses concept (“integration” vs “compliance”)
- NOT a by-pass, just a different means of satisfying the AFCA-assessed CoN process
  - GCSS-AF SPO partnered with AFCA to achieve
  - GCSS-AF Pre-Production review and test

**Still defining details!**

# LOI Overview



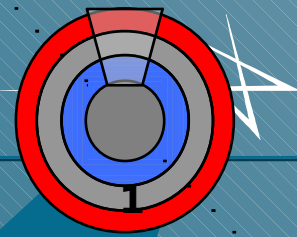
# *Levels of Integration - 1*



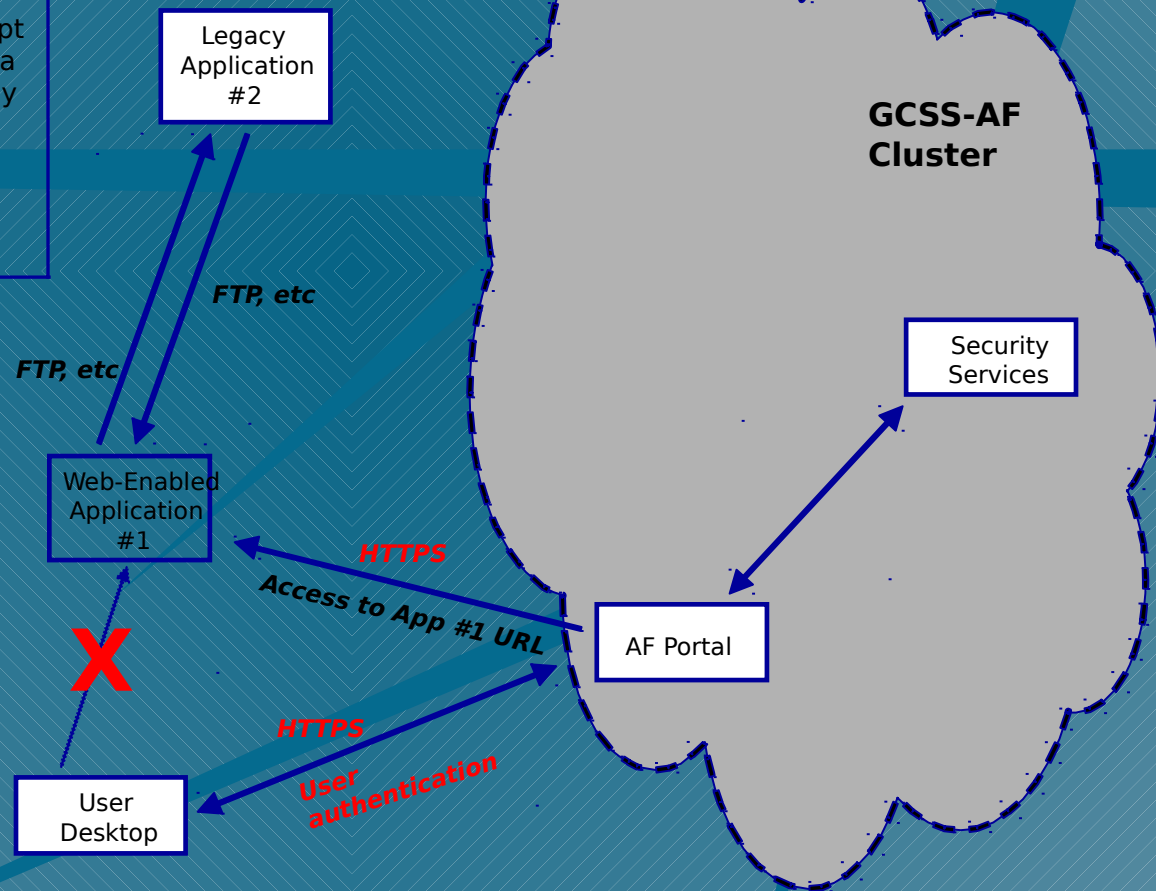
- *Interactive Security*

- Interactive authentication and session establishment must be done via the GCSS-AF security services. This can be done with individual accounts that are protected by username/password or PKI that are administered in the GCSS-AF User Registry. The administration and control of the application access control is delegated back to the application owner via a web interface
- The application must not have alternative interfaces that grant interactive access to logic and/or data hosted by the framework on behalf of the application

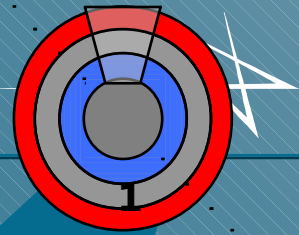
# Level 1: Interactive Security



**Level 1** involves linking users to an application through the GCSS-AF Portal and user authentication calls to the GCSS-AF Security Services. Applications can be kept outside of the GCSS-AF cluster, as are data exchanges between applications. The only IF services required for this level are the Portal and the Security Services for enterprise user authentication. Level 1 essentially involves “re-architecting the desktop access”.



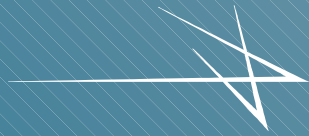
# *Level 1 “Takeaways”*



To be Level 1, you must:

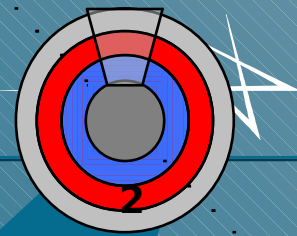
- Have a secured link on the Air Force Portal
- Have all users authenticated through GCSS-AF
  - Reduced Sign-On (RSO) to replace back-end authentication
  - Authorization can still be handled internal to the app
- If app accesses resources in the GCSS-AF cluster, must remove or disable “back door” paths to app logic and data

# *Levels of Integration - 2*

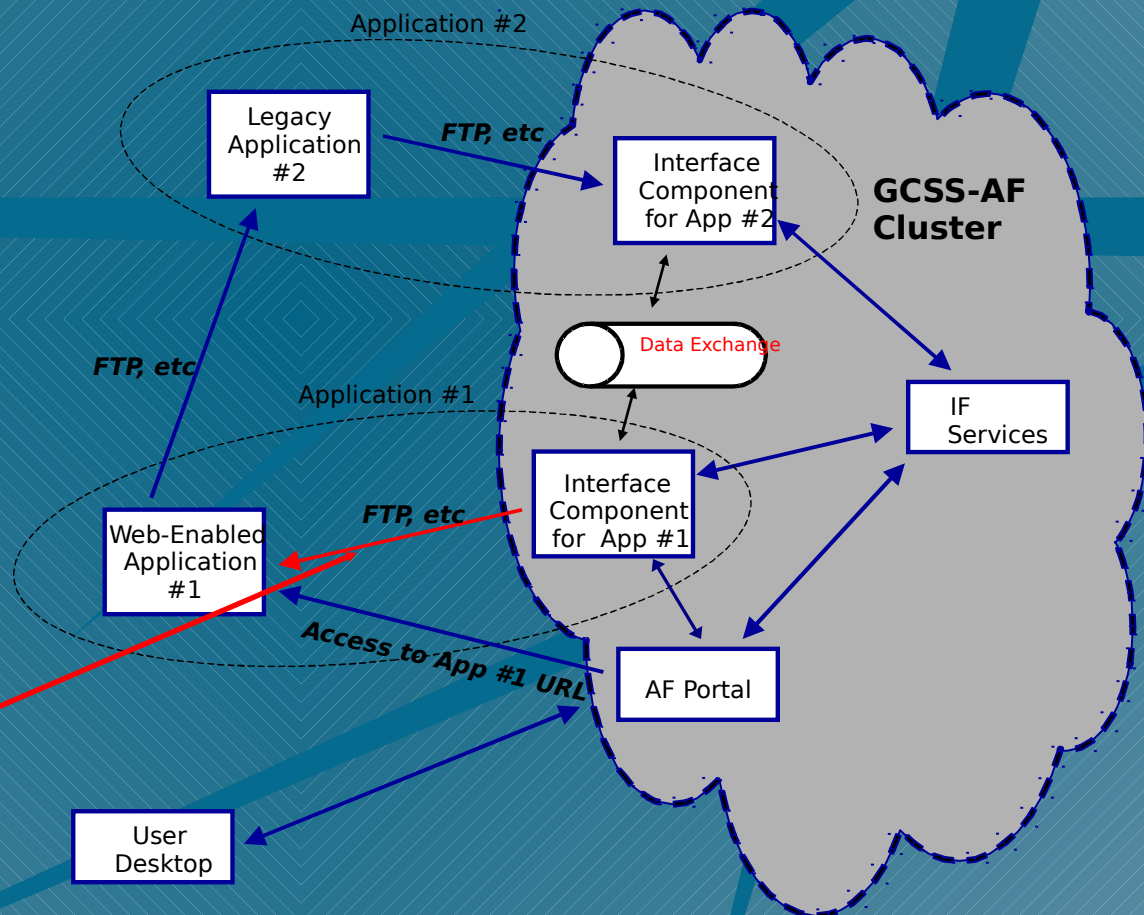


- *Process-to-Process Security*
  - Application logic and/or data level process-to-process authentication between a process under operation control of GCSS-AF and external processes not under the control of GCSS-AF will be mutually authenticated by server certificates issued by DOD-PKI. This connectivity can not be implemented with passwords or self-signed certificates

# Level 2: Process to Process Security

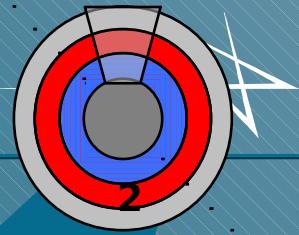


**Level 2** builds on Level 1 by providing application data exchange through the GCSS-AF cluster. Like Level 1, Level 2 links users to the application through the GCSS-AF Presentation Layer and user authentication calls to Policy Director and can keep parts of the application outside of the GCSS-AF cluster. Data exchanged through the GCSS-AF cluster may or may not be formally defined and/or stewarded and can use any protocol and format, but the exchange must be secured by the enterprise. IF services required for this level include those for Level 1 plus Security Services for data exchange (i.e., mapped authentication). Level 2 essentially involves “re-architecting the interface flow”.





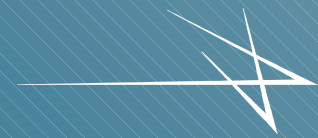
# *Level 2 “Takeaways”*



To be Level 2, you must:

- Satisfy Level 1
- Establish certificate-based mutual authentication with external processes (servers)
  - DoD (AF) PKI certificates on servers
  - Cannot use self-signed certificates
  - Cannot use ID/password

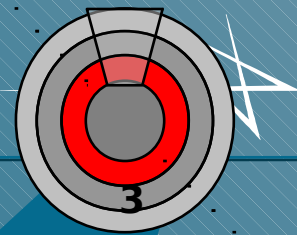
# *Levels of Integration - 3*



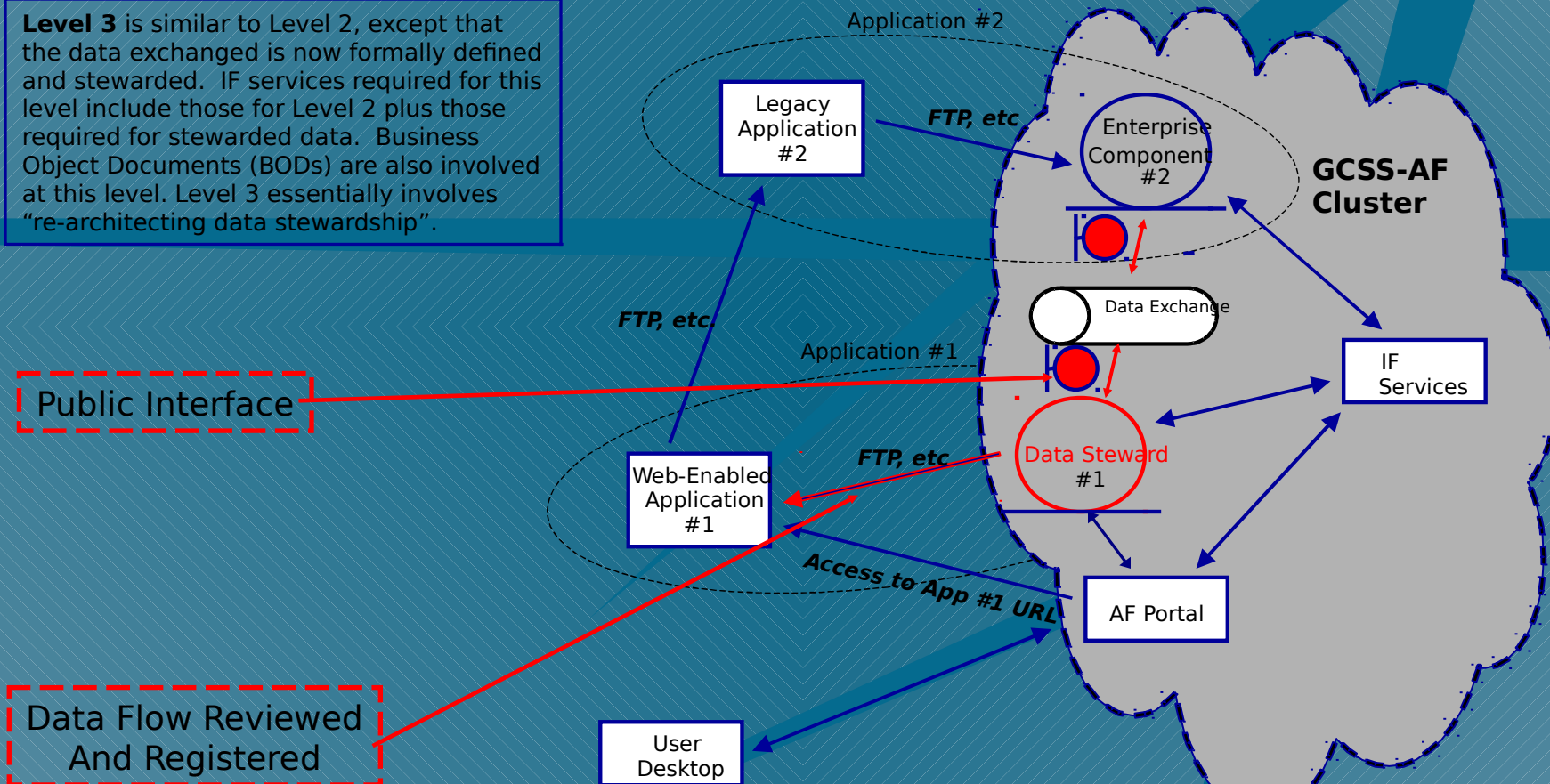
- *Data Flows Review*

- In order to migrate and support the application, a high-level overview will be developed for each migrating application. Any data flows that are between an application running under the GCSS-AF CON and external environments will meet the DoD Discovery Metadata Standard regarding the documentation of technical connectivity, data content, frequency of transfer, volume of transfer and business purpose. This information will be entered in the GCSS-AF Repository in accordance with the Air Force CIO policy directive to register in the DoD Data Metatag Registry
- The GCSS-AF team will register these data flows on behalf of the application in the DOD Metadata Registry to meet the CIO Policy Directive

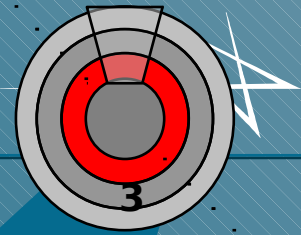
# Level 3: Information Stewardship



**Level 3** is similar to Level 2, except that the data exchanged is now formally defined and stewarded. IF services required for this level include those for Level 2 plus those required for stewarded data. Business Object Documents (BODs) are also involved at this level. Level 3 essentially involves “re-architecting data stewardship”.



# Level 3 “Takeaways”



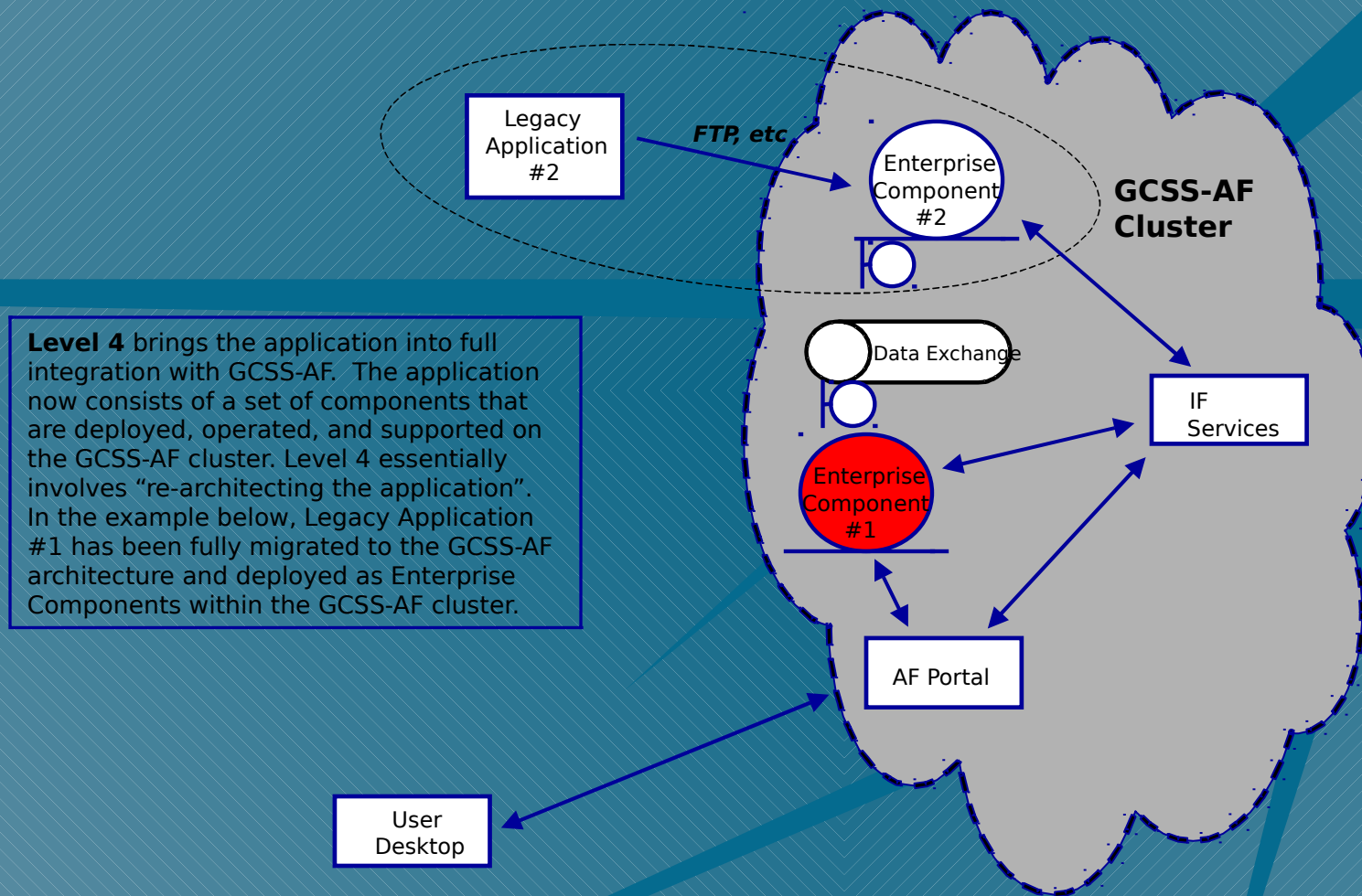
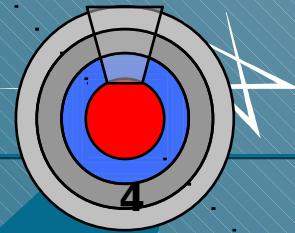
To be Level 3, you must:

- Satisfy Level 2
- Be a formally AF-designated steward (system of record) of at least one type of enterprise data
  - Stewards are designated by AF functional community authority
  - Present letter/certificate as part of PPRR package
- Have a public data interface for the data you steward
  - Formally defined syntax and semantics
  - Where applicable, BOD(s) tested and registered (NIST); present test report as part of PPRR package
  - Exchange data via transactions through the public interface
- Have data flows to non-GCSS-AF systems reviewed and registered in Meta-Data Repository

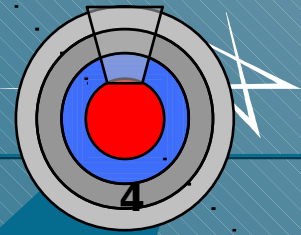
# *Levels of Integration - 4*

- *Operational Control*
  - In order to be under the framework CON, the application logic and persistent data must be under the operational management and physical control of the framework operations group. GCSS-AF or the program may actually own the platform

# Level 4: Operational Control



# Level 4 “Takeaways”

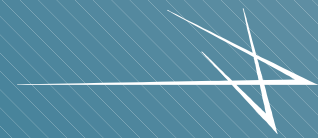


To be Level 4, you must:

- Satisfy Level 3
- Be physically resident within a GCSS-AF cluster (enclave)
  - Can still have external interfaces, so long as they satisfy Level 3
- Ensure application logic (code) and persistent data are operationally managed and physically controlled by GCSS-AF
  - Does NOT require GCSS-AF to manage app *function*
- Business process and warfighter needs determine specific uses



# Summary



- Responding to CoN letter, partnered with AFCA
- Detailed guidance will be forthcoming
- Apps that design for GCSS-AF will see reward
  - CoN/C4ISP process should be shorter, less expensive, easier
  - Data registration with GCSS-AF covers registration with DoD
  - GCSS-AF Level 4 covers standard AFCA CoN

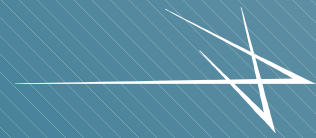


# Reduced Sign-On (RSO)

# *Terminology*

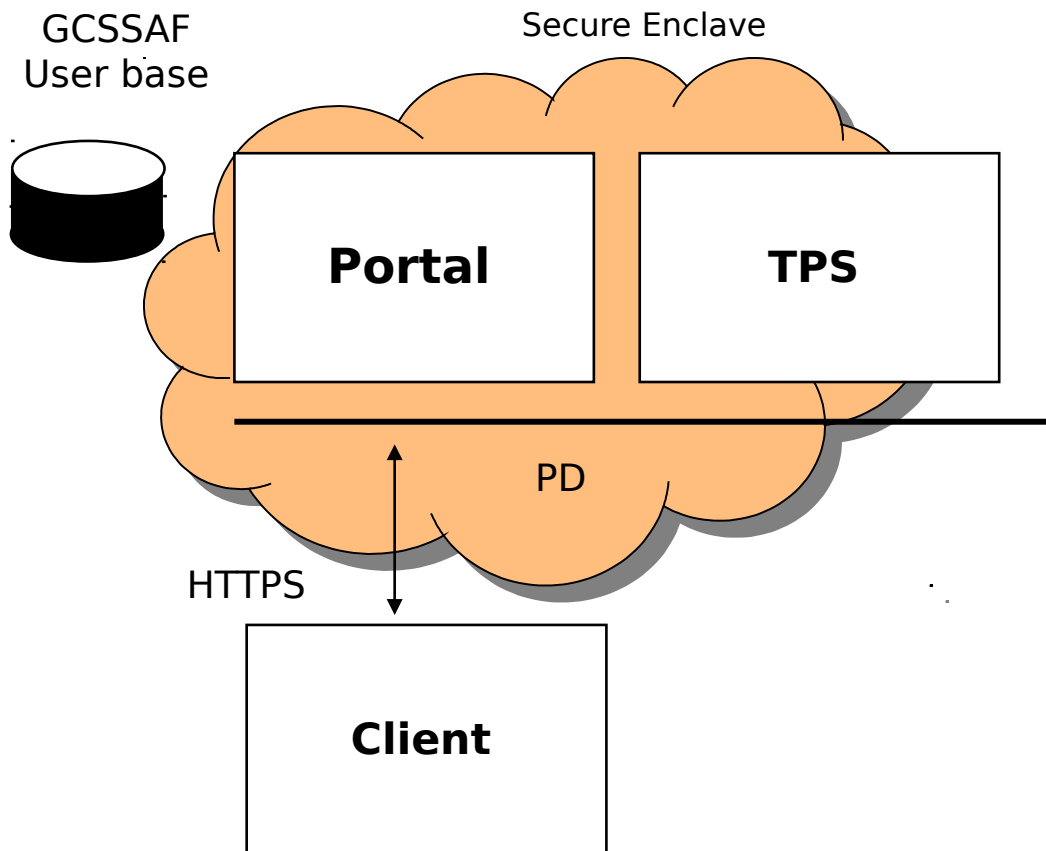
- RSO Heavy
  - Internal - within the secure facility which the IF is installed (i.e., “secure enclave”)
  - External - outside the secure enclave
- Single Sign On (SSO)
  - Workstation sign on is only user sign on
  - Goal state at AF level
    - RSO as intermediate enabling step

# ***RSO Heavy***

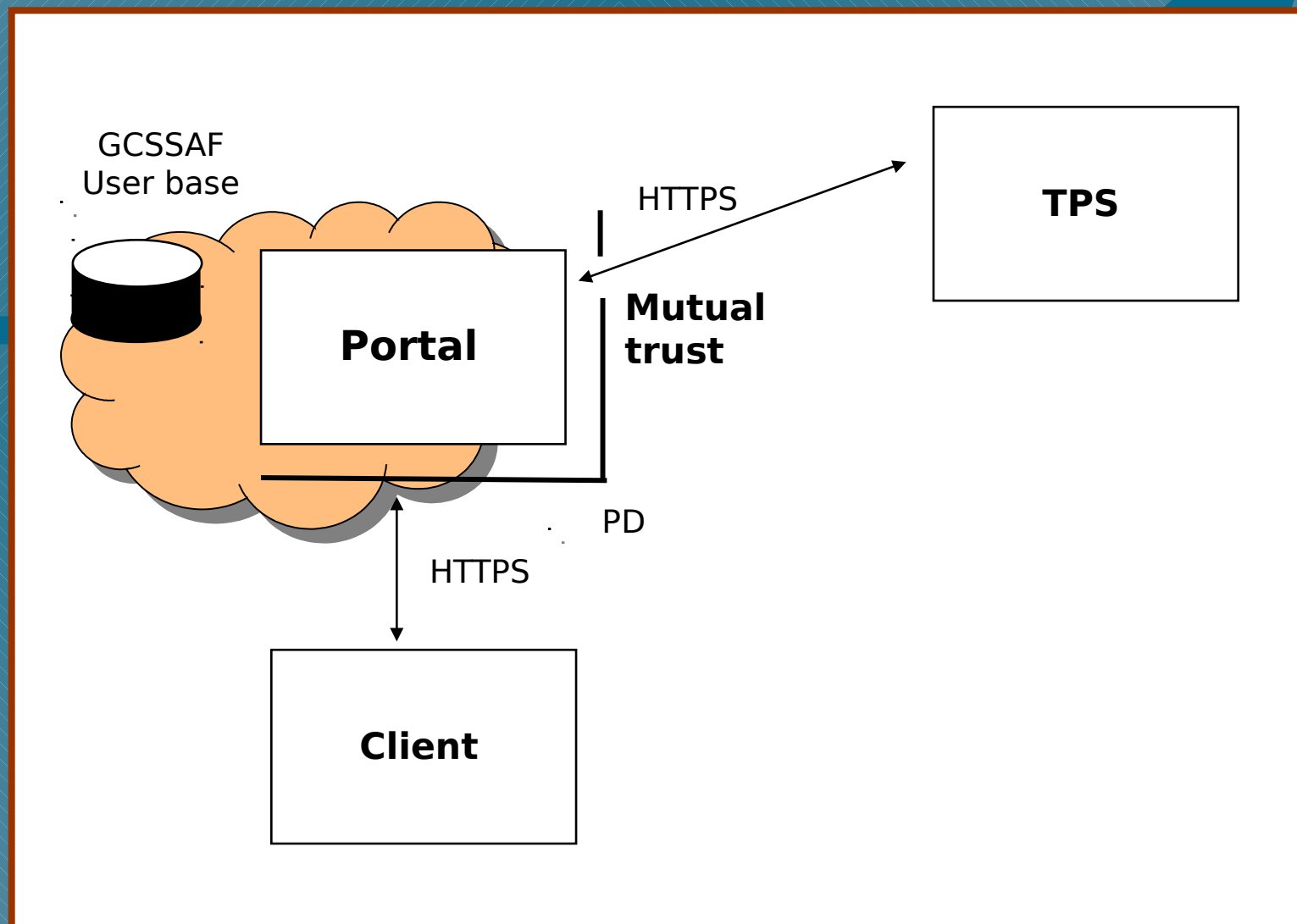


- RSO Heavy (Reduced Sign-On)
  - User logs onto Portal using Portal username/password. IF security services authenticate user.
  - When an authenticated user requests an application, IF security services verify that user is authorized to access the resource (i.e., PD ACL).
    - If unauthorized, access is denied.
    - If authorized, access is granted. User and group information are passed to the application in HTTP message-headers (iv-user, iv-groups).

# ***RSO Heavy - Internal***



# RSO Heavy - External





# Product Upgrades

# ***GCSS-AF Philosophy***



To Have:

1. “Preferred” products in certain technology sectors, and
2. Alternative products in the same sector, if a business case exists to support it.



# Technology Drivers

Products are added to the IF based on:

- Customer Requirements
- Value to the Air Force
- Schedule
- Funding

“Product Agnostic,  
Economically Pragmatic”

# ***Upgrade Goals***

- **Keep GCSS-AF current with commercially supported versions of COTS products**
- **Upgrade products to meet new requirements or take advantage of product enhancements**
- **Maintain 2 versions of COTS products in production**
  - **With some exceptions (I.e. BV, Access Manager - previously Policy Director)**
- **Update “GCSS-AF upgrade plan” quarterly**
- **Early release of key products for development environments**
- **2 releases per year**

# COTS Product Life Cycles

COTS Product	Vendor Support End Date
Policy Director 3.8	Oct 2003
BroadVision 6.5	June 2003
Bantu 3.9.5	Feb 2004
Solaris 7	No Date Announced
Solaris 8	No Date Announced
Oracle DB 8i 8.1.6	Dec 2003
Oracle DB 9i 9.0.1	Dec 2003

COTS Product	Vendor Support End Date
MQ 5.1	Sept 2002
MQ 5.2	Dec 2003
Websphere 3.5.4	Dec 2002
Websphere 3.5.6	Nov 2003
Websphere 4.0	Sept 2004
Oracle 9i AS V1	Jun 2003
Windows 2000 Server IIS Version 5	No Date Announced

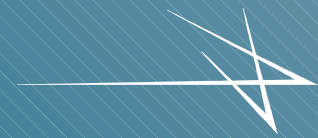
**Currently Not Supported**

**EOL w/I next 9 months**

**EOL date > 9 months away**

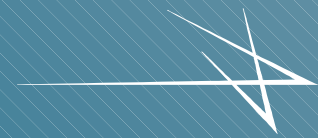
→ **Impact: Forced to upgrade if vendor assistance for problem debug is required**

# Current Product Baseline



	Minus 1 Version	Current Product Version
<u>Common Services</u> 1 Product Version Supported		<b>Policy Director 3.8</b> <b>BV 6.5</b> <b>Bantu 3.9.5</b>
<u>Common Services</u> 2 Product Versions can be Supported	<b>Solaris 7</b> <b>Oracle DB 8i 8.1.6</b> <b>Oracle DB 9i R1</b> <b>MQ 5.1</b>	<b>Solaris 8</b> <b>Oracle DB 9i R2</b> <b>MQ 5.2</b>
<u>App Servers</u> 2 Product Versions can be Supported	<b>Websphere 3.5.6</b> <b>Websphere 3.5.4</b>	<b>Websphere 4.0</b> <b>Oracle 9i AS R1</b> <b>IIS 5.0</b>

# FY03 Upgrade Plan



	Minus 2 Version (Back Level)	Minus 1 Version (Supported)	Projection (9/30/03) Current Versions
Common Services 1 Product Version Supported (New Releases are maintained)			<div>Access Mgr 4.1</div> <div>BV 7.0</div> <div>Bantu</div>
Common Services (replacements) 2 Product Versions can be Supported (New Releases are "additions" to IF and back level versions are maintained)	<div>Oracle DB 8i 8.1.6</div> <div>MQ 5.1</div>	<div>Solaris 7</div> <div>Oracle DB 9i R1</div> <div>MQ 5.2</div>	<div>Solaris 8</div> <div>Oracle DB 9i R3</div> <div>MQ 5.3</div>
App Servers (maintained) 2 Product Versions can be Supported (New Releases are "additions" to IF and back level versions are maintained)	<div>Websphere 3.5.6</div> <div>Websphere 3.5.4</div>	<div>Websphere 4.0</div> <div>Oracle 9i AS R1</div>	<div>Websphere 5.0</div> <div>Oracle 9i AS 9.0.3</div> <div>IIS 5.0</div>

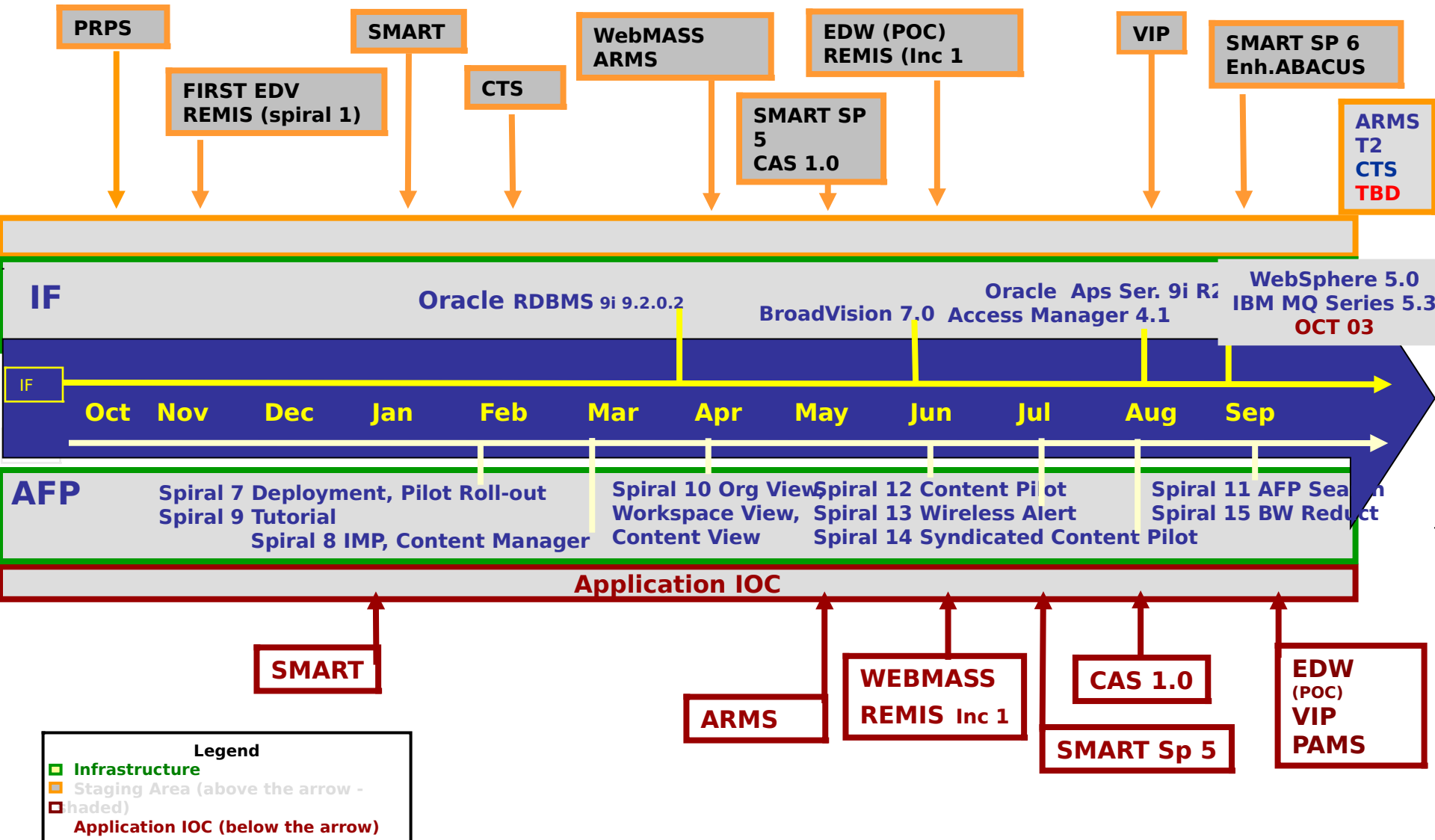
# ***Back Level Versions (Minus 2 Versions)***

- In most cases, product versions will no longer be supported by the COTS vendors
- Drives unique configuration in production
- No planned enterprise testing on back level versions for future releases of common services
- Applications that require back level versions should submit a CR, which can be evaluated for enterprise impacts and tracked
  - Additional risk
  - Additional testing/cost



# Getting on the GCSS-AF Roadmap

# GCSS-AF Roadmap FY03





# ***GCSS-AF Outreach Contacts***

- Mr. Glen Townsend 781-377-7509
- Lt Joseph L. Whitmore 781-377-6076
- Mr. Lynn Struzinsky 607-751-5556
- Mr. Paul Montague 607-

**GCSS-AF Technical Outreach, Integration and Training  
is in place to support applications**

# Website: [www.gcass-](http://www.gcass-af.com)

# [af.com](http://www.gcass-af.com)

GCSS-AF e-Support Home Page - Microsoft Internet Explorer provided by Lockheed Martin-Owego

Address <https://www.gcass-af.com/cfs/outreach/index.cfm?CFID=31327&CFTOKEN=64748990>

Home Program Center Info Center Support Education Logoff

GCSS-AF

Wednesday, September 3, 2003 Home Page

### GCSS-AF.COM

**Welcome!**

William Delahanty

**Modify Profile**

Update your personal information: email address, phone number and company name.

**Change Password**

We recommend that you change your password every 60 days.

**Related Links**

A list of other GCSS-AF related websites.

### Welcome Message

**Welcome to GCSS-AF.com. The information and community center for the Global Combat Support System.**

This website exists to facilitate communications, process execution, problem resolution, education, and information availability for the many geographically dispersed Global Combat Support System-Air Force participants.

The GCSS-AF performance teams are encouraged to join this information-based community. [Converse with technical and business staffs around the world. Share your experiences and benefit from the experience of others.](#)

This website is best viewed with Internet Explorer 5.0 and above.

### Change Request System

**Launch Change Requests**

A Web-Based tool that facilitates the collection and initial evaluation of any GCSS-AF related change request.

### Discussion Forums

**Launch Forums**

A topically organized center for GCSS-AF discussion. All members may post messages, reply, search the forums and more.

### Info Sharing System

**Launch Info Share**

A web based interface for sharing GCSS-AF related files within GCSS-AF.COM membership groups.

### Announcements

GCSS-AF Acronyms Listing Available!

SSG Summit 16-17 July 2003 now available

Topic Specific Pages - The New Document Library

### Upcoming Events

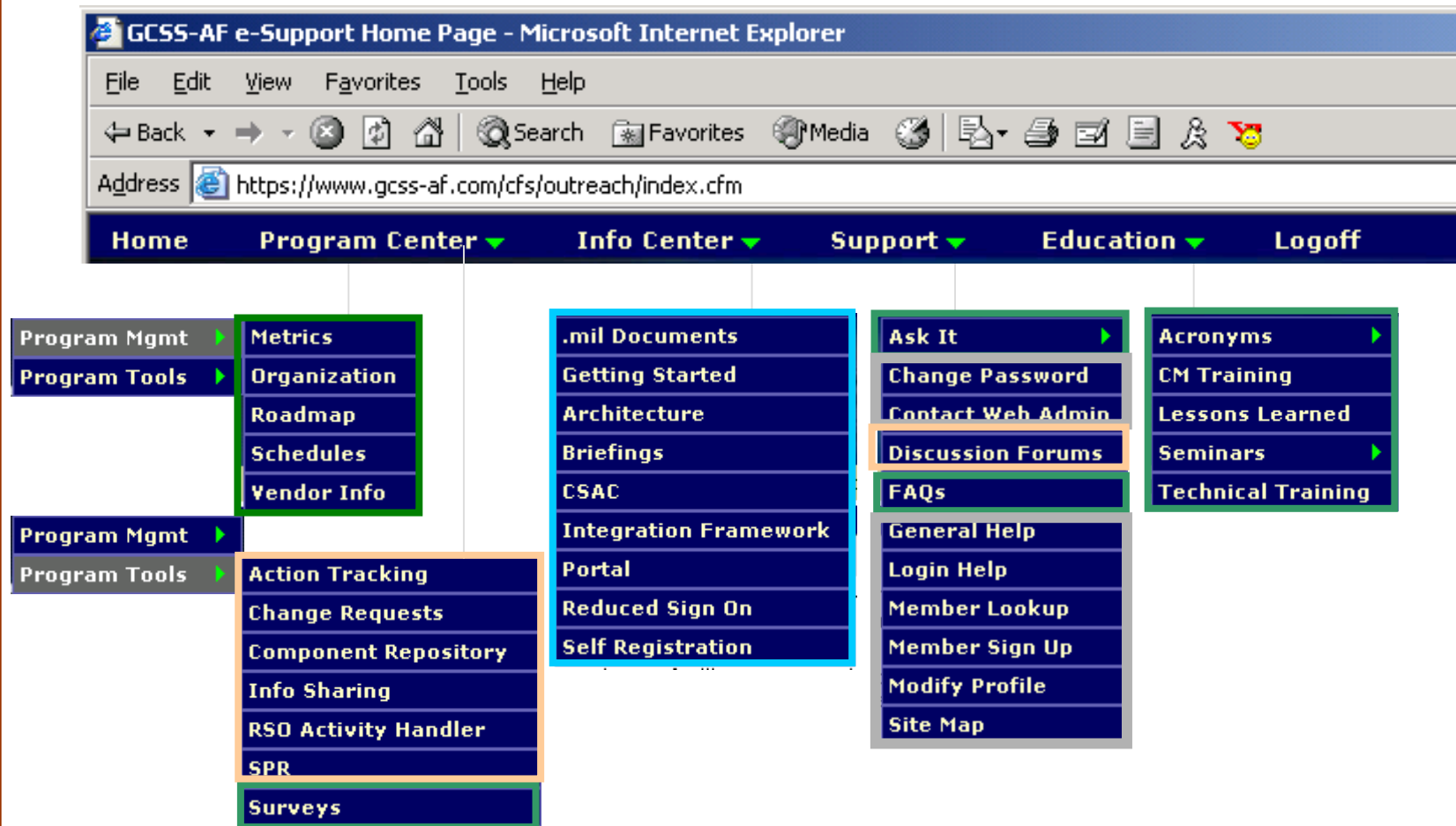
The 2nd C4ISR Summit: August 18-21, 2003

(6 items remaining)

Start Ind... OLV... Inb... GCS...

Internet 8:04 PM

# Relevant Documentation - WWW.GCSS-



## Content Types

- Applications: [Content generated by site members usage]
- Posted Documents: [Unstructured data in various formats]
- Library Listing (Externally Housed Artifacts)
- Administration Tools

